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*Steel*  
MAKES THE HOME







## STEEL MAKES THE HOME

Man's desire for a better home has been a deep driving force in the march of civilization.

Primitive man's first home provided a little shelter from the elements, but gradually, man learned to build houses which offered greater protection and more healthful living conditions. He used better materials and better construction methods. He began to surround his home with beauty and individuality.

Notable advances in home building came with the introduction first of iron and later of steel as useful materials in construction. The comforts, the conveniences, and the safety which distinguish the average modern home from a home in the Middle Ages are chiefly due to steel.

All-steel houses are practical and available, while another widely adopted application of steel in home construction has been its use in conjunction with other materials, each serving the purpose for which it is best suited.

This booklet traces briefly the progress of housing in the past. It shows some of the advantages of the use of steel in home construction. It reviews the progress brought about by the increased use of steel in heating and cooking appliances, bathtubs and other household equipment. It tells how the steel used in the modern home has made it the most livable dwelling ever built by man.

**AMERICAN IRON and STEEL INSTITUTE**  
350 Fifth Avenue New York, N. Y.







4000 B.C.—Egyptians built houses of sun-baked mud with flat roofs for open air living.



400 A.D.—Roman villas were built with cement walls, tile roofing, and glass windows. In the open air court or atrium, was the hearth.

# THE EVOLUTION OF THE HOME

In 14,000 Years, Old World Houses Achieved  
Beauty Without Comfort

The evolution of the home, like the evolution of man himself and of most human institutions, has been slow and tortuous.

Gradually over the centuries the crude dwelling places of primitive man took on added comforts and added refinements. By the time of the great Roman Empire there were tile roofs and glass windows. And then more centuries later there were English stucco houses and Georgian brick houses.

Great strides had been made in beauty and charm of architecture, but little in what are accepted today as the ordinary comforts of living. These were not to come until the industrial age with its inventions and its new materials. Only then was man finally able to achieve his desire of combining beauty and comfort in his home.



700 A.D.—Saxons developed crude houses with wood framework and smoke holes in the roof.



1500 A.D.—The English Tudor house had oak beams, stucco exterior, chimneys and leaded windows.



1750 A.D.—The English Georgian brick house was stately but deficient in conveniences.





1600 A.D. — Iroquois Indians built huts of bark and saplings.



1630 A.D.—Pilgrims' houses had wood chimneys, thatch roofs, wood siding.



1809 A.D.—Abe Lincoln's log cabin, like those which protected frontiersmen from 1638 to 1875.

## The Attractive, Comfortable American Home Was Developed in 300 Years

Housing in America did not advance much beyond the primitive state until the white man came.

Houses built by the Pilgrims after 1620 were not log cabins, as many people think, but small houses with hand-sawed beams patterned after their former homes in England. Outside walls were of board instead of stucco as commonly used in the homeland. Log cabins were not built here until the Swedes settled in Delaware in 1638 and built houses of the type they themselves had known in their homes in Europe.

Rapid progress in interior construction of the house occurred in the 19th Century. New products, such as plumbing, central heating and similar improvements, were developed, and soon came into general use. Today the typical American home is more livable than any other in history.



1662 A.D.—House of the Seven Gables built to withstand the New England winter.



1800 A.D.—Monticello had classic style but few comforts.

Thomas Jefferson Memorial Association

19th Century—Ornate but more livable than earlier homes.



Cleveland Museum of Art



20th Century—Attractiveness and comfort in American homes.





17th Century—New England houses had heavy wood framework like English homes.



1681 — Wooden pegs and mortised joints held together huge beams when wood was plentiful and nails were scarce.

Metropolitan Museum of Art

## BUILDING BETTER HOUSES



For over 200 years, the frontiersman's cabin was made of logs held together with a minimum of nails.

A nail is a common thing today, but not long ago it was so rare as to be precious. Colonial houses were held together with wooden pegs and interlocking joints. Nails were used chiefly in fastening clapboard or other form of siding to the walls. The story goes that on leaving one house to build another elsewhere, a man sometimes would burn his old house down to recover the nails.

Higher costs of lumber and the invention of machine-cut, low cost nails led to a new type of lighter wood frame construction around 1800. All structural members were nailed securely together.

Nails today are so inexpensive that a carpenter may not bother to pick up one he drops.



Since 1800, wooden framework has been fastened together with nails.





An earthquake in Charleston, S. C. in 1811 led to the use of wall anchors, which fastened iron reinforcing rods.



In New Orleans iron columns were first used over 100 years ago to support picturesque balconies.

## From Wood to Steel Construction

Even before 1700, iron rods were used to strengthen walls while iron columns began to be used over 100 years ago. Wrought iron beams were first used in this country in 1854.

Steel made its debut in the early skyscrapers, and only now is coming into its own for home building.

The first skyscraper with a frame of steel and iron was erected in Chicago in 1884, and soon the skyscraper became a distinctive feature of the American city. Meanwhile the advantages of steel construction were applied to other types of factory and business buildings.

In recent years new systems of steel construction have been developed especially for homes. Easy to erect, and long lasting, the modern steel-built house is a product of 20th Century metallurgy and engineering.



Almost 150 years ago this experimental all-iron house was built in England. It proved so durable that at last advice it was still standing.



In today's homes, modern light steel construction means strength, durability, low upkeep and reduction of fire hazard.



Los Angeles, Cal. Arthur Kelly and Joe Estep, Architects. Steel floor system ensures durability of this home.



## A HOME THAT LASTS

At one time, durability in a home depended on thick stone walls, or foot-square wood beams. Today builders can use steel, a material with an inherent strength fully 15 times that of wood as used in the framework of a house. Sheer mass is no longer needed for strength.

The house built with steel framework has the strength, durability and fire safety of a skyscraper. The steel members used in building a home, however, can safely be made lighter in section, and so more economical, than those in a skyscraper, because the load to be carried is less.

Steel construction for homes may consist either of light weight structural beams similar in shape to



Details of steel frame house construction.



Interior of Los Angeles home.





Century-old iron work in Charleston, S. C. is still serviceable.

those used in large buildings, of sheet steel beams, of truss-shaped members, or of panels formed and reinforced in such a way as to provide great strength and load-carrying capacity.

Light steel members were first used as far back as fifty years ago. Inspection of those older buildings has shown that the light steel members have not deteriorated, and that their strength is unimpaired.

To the passer-by, the completed home built with modern steel framework may appear little different in appearance from one built in the old-fashioned way. To the owner, however, who knows the security and permanence of steel, there is a vast difference. The framework of his home has great tensile strength, does not shrink or sag, is incombustible and insect-proof. His home lasts.



The steel framework being installed here will mean a lasting home.



Steel framework for partitions assures strength and fire-safety.



Grosse Point, Mich., home, designed by Frank A. Miles, Architect. Built with enduring steel framework.





Garden City, N. Y. Reinhard M. Bischoff, Architect.

## KEEPING DOWN UPKEEP

There are two costs to any house—the original cost and the cost of upkeep. Both are factors which must be considered in determining the ultimate cost of any house. The cost of upkeep depends a great deal upon the nature and durability of the materials used in the building.

Houses are traditionally susceptible to a number of ailments. Some of those ailments are chronic and costly to cure while others, though annoying, can be remedied more easily.

Among the most common symptoms of an ailing house are unsightly cracks in walls and ceilings, doors that will not quite close, windows that stick, or baseboards that gap away from the floor.



Non-shrinking steel floor systems mean low repair costs in Garden City home.



Plaster free from cracks in Garden City home.



When plaster fell, repair costs rose in this midwestern house.





Steel floor panels; the underside serves as smooth ceiling with low upkeep.



Preparing troubleproof steel panel flooring.

In most cases these symptoms indicate that the frame of the house has warped or shrunk. The cure is expensive, and there can be no guarantee that the trouble will not recur.

To immunize any house against such ailments, steel can now be prescribed. Houses built around a frame of steel, with the plastering applied to steel lath, are not affected by the conditions which are the most frequent cause of warping and shrinking in houses built of other materials.

In houses which are built with steel, walls and ceilings do not crack, and doors and windows continue to operate like new. Unsightly gaps along the baseboards are prevented.

Because the modern steel-built house is a strong, enduring unit, its cost of upkeep obviously is low.



Steel ceilings in Princeton, N. J. home.

Home with steel floor system in Princeton, N. J. Kenneth Kassler, Architect.







The owner of this home in Pittsburgh, Pa., designed by Thomas B. Garman, said: "If we had ever doubted the wisdom of building with steel beams, that doubt vanished entirely after we discovered and put out a fire in our basement recreation room. The fire had apparently been blazing for a couple of hours. \* \* \* All damage was confined to the basement."

## PLANNING A FIRE-SAFE HOME

Americans have been struggling with the problem of fire hazards and the prevention of fire losses since early Colonial days.

In 1631 the use of wooden chimneys was outlawed in New England and New Amsterdam. Not long afterwards thatched roofs were barred in various towns in an attempt to prevent fires.

Volunteer fire departments were organized, and about 1650 the first fire engine was built in this country. These were the forerunners of the splendid fire fighting equipment that protects the buildings in American communities today.

Nevertheless, despite every precaution, fire losses at the present time in this country come to the



Homes built with inflammable materials may be quickly reduced to ashes.



Steel construction might have saved this home in East Orange, N. J.





Steel framed home near Detroit, Mich. shown after fire. Its owner said: "My wife and I were out for the evening. A fire started in the living room. \* \* \* For more than four hours, the fire burned, confined to the room by steel and concrete and plaster. Finally neighbors broke into the house and got the fire under control. The structure of the house remained as strong as the day it was built. \* \* \* Naturally, the rooms were dirtied with smoke and part of the living room furniture was destroyed but our house still stands!"



How steel framed wall checked fire that burned in an adjoining room.

huge total of \$250,000,000 a year. A very large part of that loss is accounted for by conflagrations that start in private dwellings.

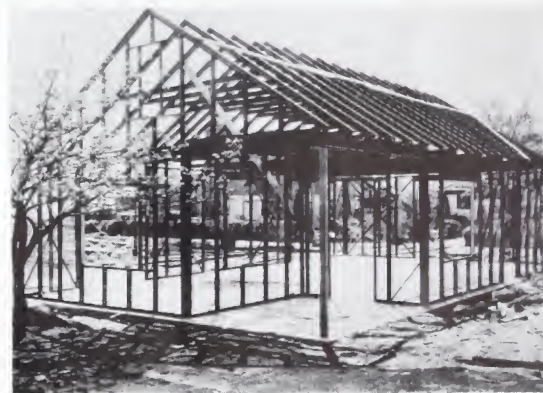
The use of steel as a building material provides a bulwark against the ravages of fire.

Wood construction in floors, walls and roofs represents about twelve pounds of potential fuel for each square foot of floor space in a dwelling, exclusive of the potential fuel in the roof, as against less than six pounds for the furnishings and all other combustibles.

When light weight steel framework and steel lath are used, two-thirds of all materials that might serve as fuel for a fire are at once removed.

Furthermore, steel wall and floor systems, as used with steel lath and plaster interior finish, act as an effective barrier to the spread of flames. They protect the house and its contents by confining the fire to the room in which it starts.

The extent of fire protection accorded by the use of steel is shown by tests which were conducted by the National Bureau of Standards. Those tests revealed that partitions constructed of steel framework, metal lath and plaster provide protection for two hours against the Standard Fire Test, compared with only twenty minutes for partitions constructed of wood framework, wood lath and plaster.



Steel construction reduces by two-thirds the potential fuel for a fire.



Steel framed home in Los Angeles, Cal. Richard J. Neutra, Architect.





Design for Safety: Framework of Los Angeles home.



Steel framed home, Los Angeles, Cal. Paul R. Williams, Architect.

## THE ELEMENTS DEFEATED

In the earthquake and hurricane disasters of recent years the buildings that have stood up best have in general been steel-built structures.

About two hundred years ago iron rods began to be used to strengthen house walls and chimneys, and experience has since proved that modern systems of steel construction offer maximum resistance against the onslaughts of the elements.

High winds and earthquakes, destroying or seriously damaging less substantially built homes, have done little or no damage to those which were built of steel properly designed.

Whether as the head of a hammer, an automobile piston rod or as a house frame, steel is able to resist pressure, vibrations and shocks.



Earthquakes have caused severe damage in the United States.



Over 150 people were killed when a tornado reduced these homes to kindling.

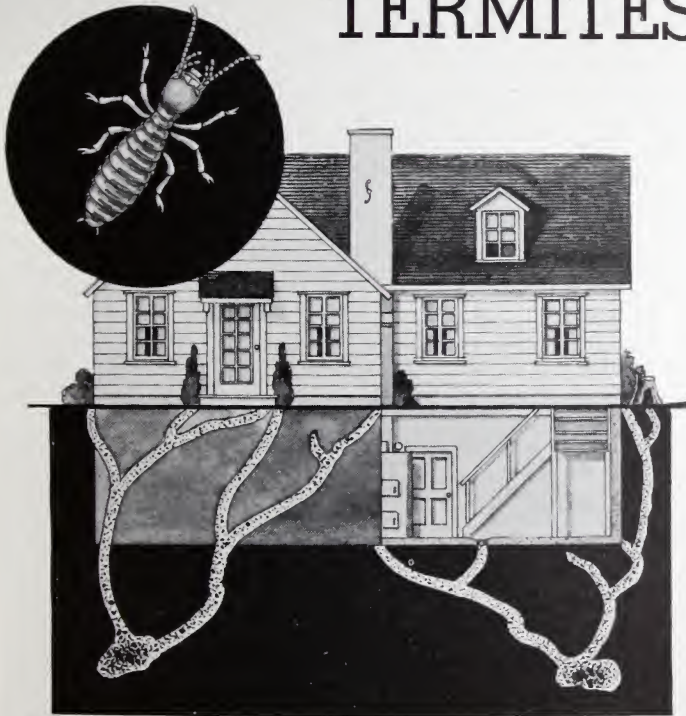




Termite - proof home in Cincinnati, O., framed with steel.

Steel termite guards, placed over foundations, protect wood framework.

## TERMITES CAN'T EAT STEEL



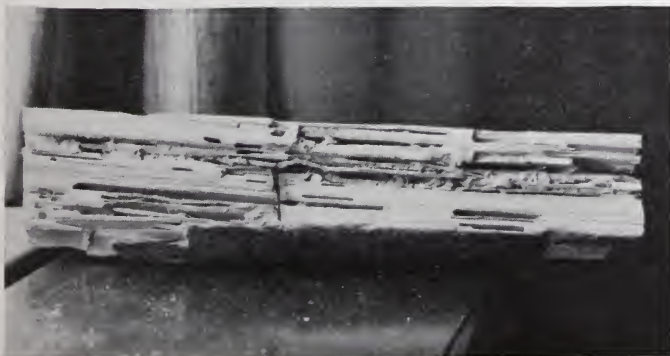
How the house-wrecking termite does his destructive work.

Early American home builders did not need to guard against termites. Those wood-eating ants originally lived in tropical climates and only recently began to invade the more temperate zones.

Termite damage now amounts to \$45,000,000 annually, the United States Department of Agriculture estimates, and home owners in many parts of the country have been the principal victims.

Seeking wood for food, termites usually enter a house from the ground and eat their destructive way through the beams. Eventually the weakened timbers sag under their loads, throwing the house out of alignment. Because termites are seldom discovered until they have done much damage, repairs are costly.

Since termites can't eat steel, they shun houses of that material. Rats, mice and other pests likewise cannot gnaw their way into such a house.



Termite-ruined wood beam from a house in New York City.



A costly meal: termites ate right through this beam.





Small steel framed homes in Syracuse, N. Y.

## SMALL HOUSES — BETTER BUILT

Scientific research is the advance column of progress in any field of activity.

In recent years the steel industry has spent millions of dollars in research and experiment in the use of steel in homes. The major portion of that research has been directed toward the adaptation of the usefulness of steel to the typical small home.

New methods have been developed that give a four-room bungalow all the structural advantages which steel has offered for the largest buildings.

Today the small home built with steel is sounder, more durable and more livable than many of the larger houses constructed before the age of steel.

Reductions in the price of steel during the last 100 years have played an important part in making the metal available for use in the average home.

Moderate-priced steel framed homes near Washington, D. C.







Chicago, Ill. Steel frame. George Loan Tucker, Architect.



Detroit, Mich. Steel framed house.



New York, N. Y. Steel framed home.



Middletown, O. Exterior steel paneling. Peter J. Weich, Architect.



Los Angeles, Cal. Steel frame and siding. Paul R. Williams, Architect.

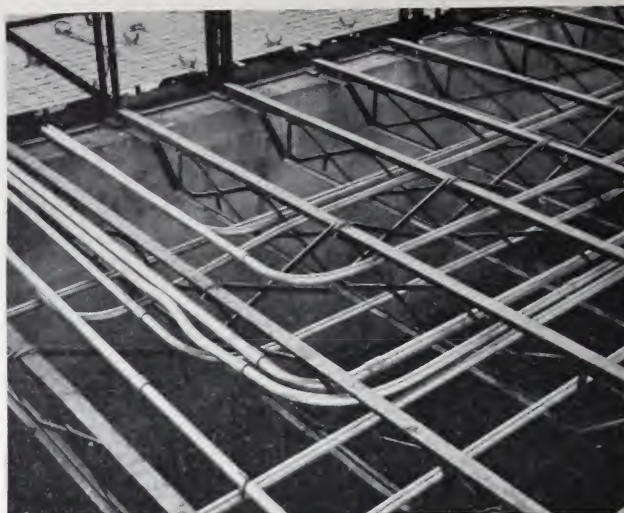


Detroit, Mich. Steel frame. Designed by Ford Foundation.





Much sawing and drilling were needed here before the vital steel and iron piping could be installed.



Designed for Efficiency: A steel chassis for piping.

## STEEL SIMPLIFIES CONSTRUCTION

There is nothing complicated about a home built of steel by modern methods.

Standard light steel structural units, beams, joists and studs, are quickly and permanently joined together to make a framework for the house. To the framework are readily attached other materials such as insulation, lath, and plaster. Any experienced builder can handle the operations necessary at the home site.

Because steel is ideally suited to modern construction methods, home-building processes have been simplified and improved. Measurements of the "cut and try" variety have given way to pre-



Steel joists are easily installed and offer free passageways for piping.



Interior of home in Garden City, N. Y.



Home in Garden City, N. Y. Designed by Reinhard M. Bischoff, Architect. Built with steel joists.





Middletown, O., Peter J. Weich, Architect.



Floor plan of home in Middletown, O.

cision methods, and sound engineering principles are applied to the smallest detail of construction.

Steel framework has solved some problems that long have troubled builders, such as the task of providing passage for the 1,000 or more feet of steel or iron pipe, and of cable and conduit for wiring, which go into the average small home.

The installation of wiring and piping in a wood-framed house frequently requires handsawing to provide passageways through the beams. This can impair the strength of the framework.

In a steel-built home the structural units arrive at the building site ready to be put into place and ready to receive piping and wiring in openings or spaces especially designed for this purpose. Supply systems are thus quickly installed, with great savings in time and expense to the home owner.



Insulation is easily installed behind steel panels in Middletown house.



Steel panels slip into place quickly.



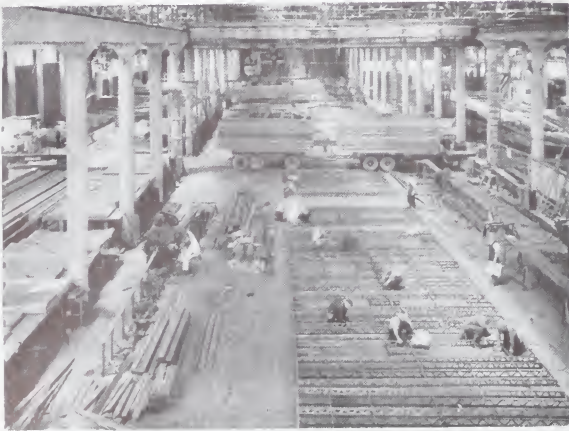


Sawing and hammering on the building site are greatly reduced when prefabricated framework is used.

Home with prefabricated steel frame, Detroit, Mich. Hussey and Vose, Architects.



## PREFABRICATED BUT INDIVIDUAL

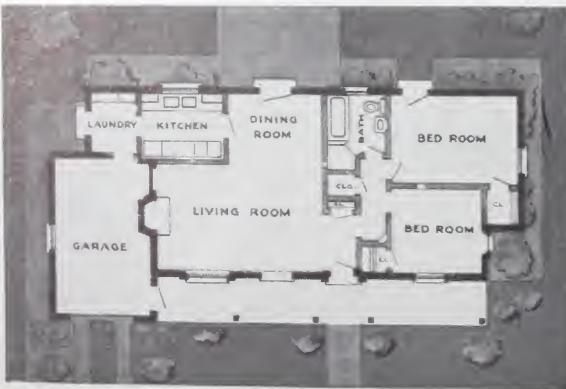


Steel framework for homes welded efficiently in the factory.

People who want individuality in their homes can profit by the use of pre-assembled and prefabricated building materials and equipment.

Mass assembly of standardized parts has been a major factor in bringing down prices of such things as automobiles, refrigerators and radios in recent years. The same principles promise to reduce the cost of houses through standardization of basic structural units, while offering flexibility in arrangement and construction to fit any architectural treatment.

Steel framework and paneling lend themselves readily to the economies of prefabrication. In most systems of construction, steel members are factory-cut for quick assembly at the site.



Floor plan of home at San Francisco

Home at San Francisco, Cal. J. K. Ballantine, Jr., Architect. Built with prefabricated steel framing.







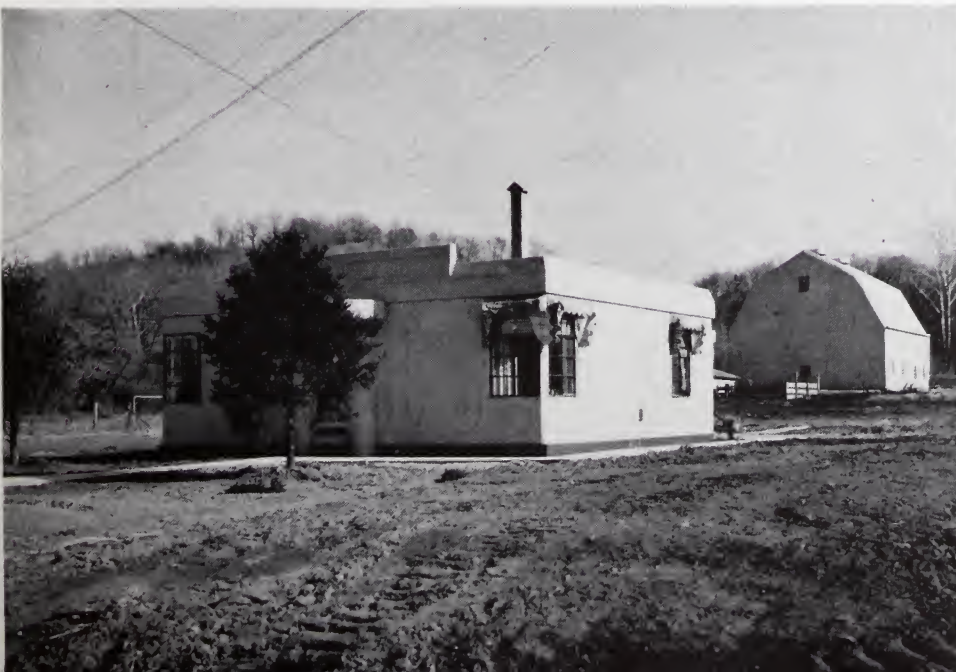
Factory-assembled steel home. In practice, prefabricated steel is usually assembled on building site.



A truck delivers a ready-made home to the site.



This new steel home was towed from a river-side factory to a site on the other shore.



Interior of prefabricated steel home in Peoria, Ill.

Prefabricated steel home and steel barn near Peoria, Ill. Steel panels for such buildings may be assembled anywhere.





Cape Cod Colonial, Syracuse, N. Y.



Colonial, Clairton, Pa.



Georgian, Wilmington, Del. Walter Carlson, Architect.



Modern, Squantum, Mass. Ernest G. Peterson, Architect.

## VARIETY WITH STEEL



Modern, New Rochelle, N.Y. W. Stanwood Phillips, Architect.



California Colonial, Downey, Cal. Vincent Palmer, Architect.



English, Scarsdale, N.Y. Julius Gregory, Architect.



New England Colonial, New York World's Fair 1940. Cameron Clark, Architect.





Modern home with steel framework, Greenburgh, N. Y. Paul Doering, Architect.

Any style of house can be built around a steel frame—Cape Cod cottage, Spanish mission, English Tudor, or 20th Century.

In styles of architecture the American home planner today can choose from the best of every land and every time, adapted to the requirements of modern living.

His choice of materials is equally wide. He may prefer a stone exterior, or brick, or wood, or stucco, or glass blocks, or sheet steel.

Whatever his tastes, he retains full freedom of choice among both styles and materials when he selects steel framework for his house. He may select what is most suitable to the site and to the climate.

Because of its strength, steel permits great flexibility and efficiency in interior design. Framing members can be spaced farther apart, allowing larger windows.

By reducing the number of supporting studs or walls, more unimpeded and usable space inside the home may be obtained. Also because of the strength of steel, walls and floors can be reduced in thickness to give more cubic feet of room space in the house.

The appeal of a steel framed house is more than beauty of exterior. Its real value lies in its intrinsic serviceability.



Movable walls provide flexibility. Greenburgh, N. Y.



Steel framing permits the use of large windows. Greenburgh, N. Y.





Small home, Middletown, O.  
Built with sheet steel panels.

## BUILDING WITH STEEL PANELS

Sheet steel can be formed into building panels that are strong and durable. When such panels are welded or otherwise joined together they fulfill two functions at the same time. They act as a supporting framework for the home, and also as a covering material for walls, ceiling or floors. In houses thus constructed no other framework may be needed. Hundreds of such homes are now in use.

Two general types of steel panels have been especially developed for use in small homes. One type is hollow; the other has one open side. Piping and wiring installation is easy with either type.

The outside surface of the panels may be painted or covered with stucco, brick, plaster or other materials in accordance with the owner's tastes.



Steel floor panels also make an attractive ceiling. Kenneth Kassler, Architect.



Welding steel floor panels.



This type of steel floor panel is flat on the underside.



# APARTMENTS FOR BETTER LIVING



Garden apartments provide space for sunlight and recreation.

The safety and strength of steel have played an important part in the improvement of apartment houses.

Before the development of light steel construction, steel framework was used mainly in tall apartment houses. Now, however, many two, three or four story garden apartments are built with light steel framework and steel floor systems.

Apartment houses of small and medium size can now be made durable, fire

safe, and inexpensive to maintain. Furthermore they afford greater areas for sunlight and recreation, particularly in suburban areas, than may be obtained in the tall apartments of the city.

Improved construction methods often make possible the erection of the entire light steel framework for an apartment within one week. Economies thus effected help to bring better housing within reach of more people.

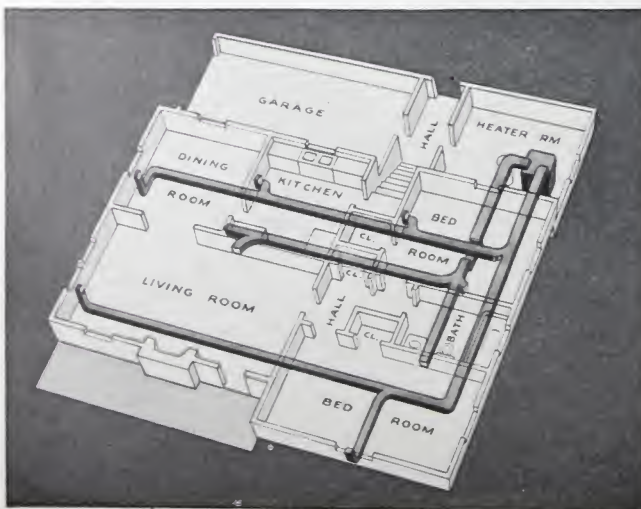
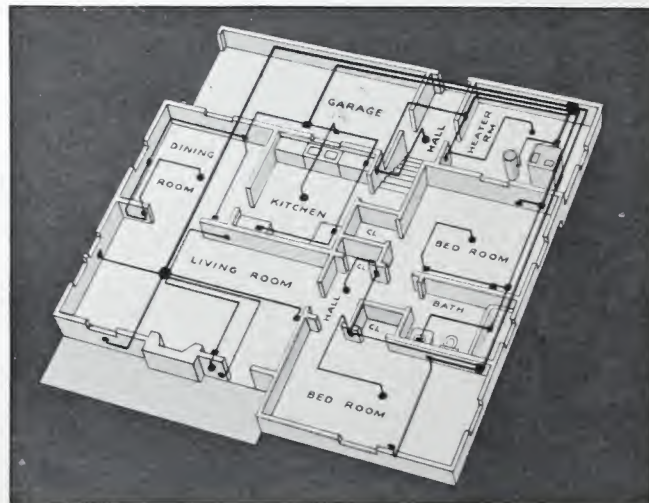




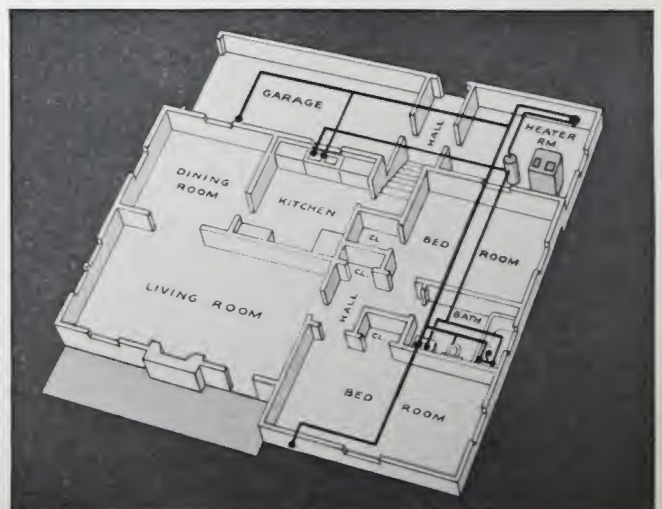
White Plains, N. Y. Lee Perry, Architect. Below are diagrams of the systems of steel piping, air ducts, cable and conduit in this house.

# VITAL STEEL NETWORKS

Electric and Gas Systems



Heating System



Plumbing System





A steel mechanism opens garage doors easily.



Galvanized steel gutters carry away rainwater.

# STEEL EQUIPMENT COMPLETES THE HOME

Equipment and appliances are important in any home, for they bring comfort and convenience.

So much of the equipment of a modern house is made of steel, that it has been estimated that a small five-room house contains fully four tons of iron and steel just in equipment and appliances.

Part of that tonnage goes into the four vital networks in a house—its electricity, gas, heating and plumbing lines—which serve most of the modern home appliances.

Many of the appliances themselves are also of steel or iron. And every day new uses for steel are found in the home. Some of these are shown in the following pages.



Steel awnings are long lasting, attractive and highly efficient.



Enameled steel blinds are durable and colorful.



Flexible steel cable protects electrical wiring.





1663—Four-fifths of the heat was lost up the flue.



1880—Room stoves wasted one-fifth of the heat.

# MORE COMFORTABLE HOMES

## Heating Equipment Is Made of Steel

Until about 40 or 50 years ago winter's cold meant discomfort in most houses. Before then, open fireplaces and stoves were practically the only source of heat, and though picturesque, a fireplace is something less than the ideal room heater.

It was only when furnaces and central heating systems came into general use that houses became comfortable all year 'round. Today iron and steel make the furnaces and boilers in which the heat is generated, and iron and steel pipes and ducts lead the heat throughout the house.

The modern furnace is a thoroughly efficient, compact, and unobtrusive unit. Consequently the furnace room can be made into an attractive play room, adding an extra room to the house.



Tending the old-style furnace was a dirty job.



Steel radiators blend with modern furnishings. Wm. F. Deknatel, Architect.



Today—Automatic central heating adds a play room to the house.



# MODERN BATHROOMS ARE STEEL



People today may want the architecture of a home to reflect the graciousness of Colonial houses or the formality of the Georgian period. They may prefer furniture of the style of Sheraton or Duncan Phyfe.

Unanimously, however, they want their bathrooms to be in the style of today, for in design, workmanship, materials and conveniences, the modern bathroom is far superior to earlier styles.

Running water was introduced into the home long after cooking fires, beds and dining tables, and for that reason bathrooms have not a very long history compared with kitchens, bedrooms and dining rooms. Nevertheless in that brief period, wood, earthenware, copper and tin plate have all had their day as material for bathroom fixtures.

Nowadays steel and iron finished with fine porcelain enamel, sometimes combined with glass, plastics and plated metals are used for most items of bathroom equipment. The steel can seldom be seen, but beneath the porcelain enamel, steel serves to add strength and durability.



Enameled or stainless steel walls, and steel cabinets, tubs and basins are durable and easy to clean.



Before iron and steel pipes brought running water, the well had to be pumped.



Wood and cast iron fixtures were the height of elegance 70 years ago.



To fill the tub for Saturday night's ritual.



# LIGHTENING WOMAN'S WORK

## Modern Kitchens Are Labor Saving



Only half a century ago a housewife used twenty muscle driven devices in her kitchen. She walked several miles a day in a kitchen made large so that she would not have to do her work too close to the heat of the old-fashioned stove.

The housewife of today uses an enameled steel range that is not only far more attractive and easy to clean and operate than her grandmother's, but which applies heat primarily to the food.

She uses many kinds of steel kitchen equipment designed for labor-saving efficiency at the same time that it is styled for beauty.

Kitchen equipment must be able to take the punishment of hard, daily use. That is another reason why in many modern kitchens steel is used for cabinets, stainless sinks and drainboards and all kinds of utensils, as well as for the range, refrigerator, dishwasher and similar equipment.

Steel kitchen equipment has brought a new freedom to modern women.



Steel kitchens can be as efficient as laboratories.



The hearth cooked the housewife as well as the food.



Iron coal stoves were messy and needed frequent stoking.



Before the steel refrigerator cabinet, sanitary conditions were hard to maintain.



Prefabricated steel stairs brighten a modern home. Paul Doering, Architect.



Steel windows and doors heighten a room's beauty.

## EQUIPMENT READY MADE

Doors, Windows, Stairs and Closets

Not one home owner in a million would ever attempt to weave his own wire cloth for a fly screen, using the fine steel wire needed.

Perhaps the job could be done at home by a man with the necessary time and skill, but neither in cost nor quality would the homemade product compare well with factory-made screening.

Today, not only screening but steel stairways, closets, casement and double-hung windows, doors, door frames, hardware and many other home equipment items come ready made to the home site.

These are only a few of the items of home equipment that can be economically delivered to the site assembled for quick installation. The age of rule-of-thumb building draws to a close.



Creak-proof, fire-proof stairs ready for installation.



Steel windows are quickly installed.

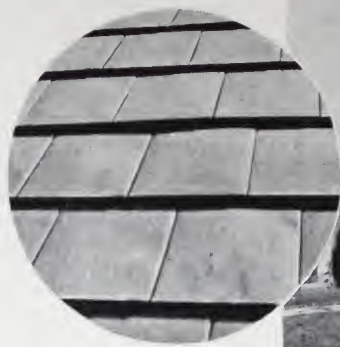


A factory-made steel closet slips into the wall.





Roofed with Steel:  
Monticello.



Metal shingles lend  
durable charm.



# ROOFS WITH LASTING PROTECTION

After thatched roofs were outlawed because of the fire hazard, wood shingles came into common use. Around 1800 iron began to appear as roofing.

In recent years iron and steel roofing has become increasingly popular. This roofing is not only attractive but it is water tight and resists fire and lightning damage. Moreover it has the added advantages of low cost and low upkeep.

The National Bureau of Standards made a recent survey of 10,000 homes in nine southeastern states. It showed that metal roofs, consisting almost entirely of iron and steel sheets and shingles, were on almost 40 per cent of the houses.

The Bureau reported that metal shingles had given satisfactory service for 20 to 30 years, and in numerous cases, for up to 50 years. Coated with zinc or lead-tin alloy, and painted any color, iron and steel roofs often outlast the houses themselves.



This type of steel  
roof has distinctive  
beauty.



Stainless steel  
roofing, flashing  
and downspouts  
are troublefree.  
Harold W. Goetz,  
Architect.



New Braunfels, Tex. Over 50 per cent of the houses in this town are roofed with fireproof iron or steel. A city ordinance prohibits combustible roofs.





Metal lath en-  
meshes stucco.



Steel's grip will hold the dry plaster.

## STEEL GUARDS THE HOME

Steel is making an increasingly important contribution to better housing. It has added to beauty, and to comfort and conveniences. But in the home, a factor of even greater weight is that of safety.

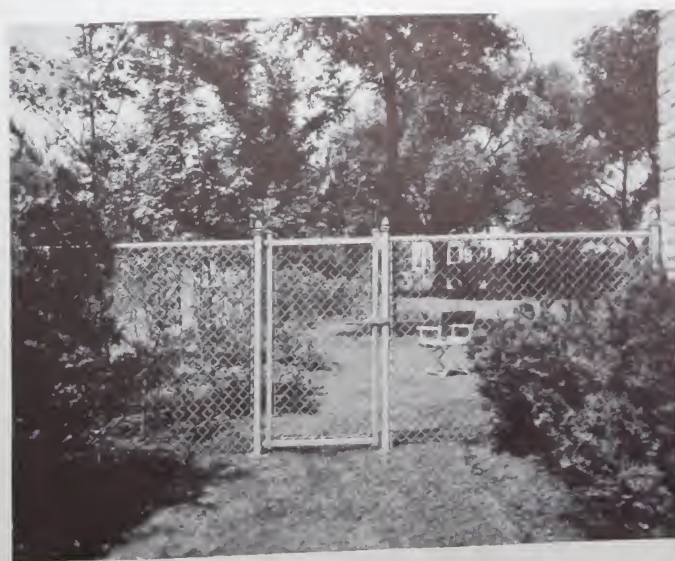
Steel guards the home. Because it is the natural enemy of fires, storms and termites, steel is insurance against their attacks.

Even the rigors of weather are now battled by steel in the form of insulating material. Thin steel sheets with a coating of lead and tin from which heat waves are deflected can be placed within the walls to keep the home warm in winter and cool in summer.

Outdoors and indoors, visibly and where it cannot be seen, steel guards the home against forces that might impair or destroy it.



Steel insulation deflects heat rays, thus keeping houses warm in winter and cool in summer.



Steel fencing provides dignified, lasting protection.



The American Iron and Steel Institute greatly appreciates the cooperation of the scores of companies and individuals who furnished the photographs and information presented in this booklet.

Further information concerning the many types of steel building materials and home equipment described can readily be obtained through architects, building supply houses, and building contractors, or by writing to the American Iron and Steel Institute, 350 Fifth Avenue, New York, N. Y., for a list of the manufacturers.

The home reproduced on the cover of this booklet was designed by Nat O. Matson, Architect, and is located at White Plains, N. Y.







